

REMARKS

Prior to entry of this amendment, claims 1-14 are currently pending in the subject application. Claims 1 and 5 have been amended. Claims 15-19 have been added. No new matter has been introduced. Claims 1 and 5 are independent.

Applicants appreciate the Examiner's acknowledgement of applicants' claim for foreign priority and receipt of a certified copy of the priority document.

Applicants further appreciate the Examiner's acceptance of the drawings filed on March 17, 2004.

Applicants still further appreciate the Examiner's consideration of applicants' Information Disclosure Statements, filed March 17, 2004, and September 13, 2004.

Claims 1-19 are presented to the Examiner for further or initial consideration thereof.

A. Introduction

In the outstanding Office action, the Examiner rejected claims 1 and 3-12 under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,039,855 to Kemeny et al. (hereinafter "the Kemeny et al. reference"), rejected claims 2 and 14 under 35 U.S.C. § 103(a) as being unpatentable over the Kemeny et al. reference, and rejected claim 13 under 35 U.S.C. § 103(a) as being unpatentable over the Kemeny et al. reference as applied to claim 11, above, and in further view of U.S. Patent No. 5,655,530 to Messerschmidt (hereinafter "the Messerschmidt reference").

B. Applicant Initiated Interview Summary

On March 30, 2006, an applicant initiated telephone interview was conducted. As required by 37 C.F.R. § 1.133(b), applicants' summary of that interview is as follows:

1. Brief Description of any Exhibit Shown

No exhibit was shown or demonstrated during the interview of March 30, 2006.

2. Identification of the Claims Discussed

The Examiner and applicants' representative discussed independent claims 1 and 5.

3. Identification of the Specific Prior Art Discussed

The Examiner and applicants' representative discussed the Kemeny et al. reference.

4. Identification of the Proposed Amendments

None.

5. Summary of the Arguments Presented to the Examiner

Applicants' representative presented arguments regarding the scope of the disclosures of the Kemeny et al. reference. More specifically, applicants' representative argued that the cited prior art references fail to disclose or suggest measuring both the positive and negative order beams and using the measured reference beam to calculate an intensity of the sample beam input to the sample.

The Examiner generally agreed with this assertion, but requested clarification of the measuring of both the positive and negative beams. The above amendments to claims 1 and 5, as discussed below, are believed to provide this clarification.

6. General Indication of Other Pertinent Matters Discussed

No other pertinent matters were discussed during the interview of March 30, 2006.

7. General Outcome of the Interview

An agreement between the Examiner and applicants' representative was reached. In particular, it was agreed that that neither of the cited prior art references discloses measuring the positive and negative order beams to determine an absorbance of a sample.

C. Asserted Anticipation Rejection of Claims 1 and 3-12

In the outstanding Office action, the Examiner rejected claims 1 and 3-12 under 35 U.S.C. § 102(b) as being anticipated by the Kemeny et al. reference. Claims 1 and 5 have been amended to more clearly recite the present invention. It is respectfully submitted that these amended claims are allowable for at least the reasons set forth below.

Claims 1 and 5 now recite, in part, calculating "an intensity of a positive-order beam input to the subject by applying the intensity of the negative-order beam output from the reference matter to the intensity relationship equation obtained by measuring both the positive-order and negative-order beams output from the reference matter." As noted, for example, in paragraph [0042] and [0043] of the original specification, the negative-order beam serving as the reference beam is measured and then the corresponding positive-order beam that has been input to the subject is calculated from the measured negative-order beam in accordance with the established relationship. As the filter is tuned to different frequencies, the intensities in the positive-order and negative-order beams may change and/or it may be desirable to provide different intensities of positive-order and negative-order beams. Rather than assume the intensities of the positive-order and negative-order beams are the same throughout the operation of the filter or measure the positive-order beam before it is incident on the sample, the present invention calculates an intensity of the beam input to the sample from the reference beam and

then compares this calculated intensity with the measured output beam from the sample to determine the absorbance.

In contrast, while the Kemney et al. reference may disclose determining an absorbance of a sample using a reference beam and a sample beam, the Kemney et al. reference fails to disclose or suggest using the measured reference beam to calculate an intensity of the sample beam input to the sample. This is further evident from the equation at the top of column 13 of the Kemney et al. reference, in which absorbance is determined directly from the detected signals, and it is merely **assumed** that the intensity of light incident on the sample is equal to the intensity of the reference beam. It is noted that the Examiner recognizes this assumption in the Kemney et al. reference in the obviousness rejection set forth below, thereby demonstrating that there is no *prima facie* basis for the present anticipation rejection.

Therefore, it is respectfully submitted that the Kemney et al. reference fails to disclose or suggest the present invention as recited in the independent claims 1 and 5. The remaining rejected claims depend, either directly or indirectly, from respective ones of claims 1 and 5, and are believed to be allowable for at least the reasons set forth above. Therefore, it is respectfully requested that this rejection be withdrawn.

D. Asserted Obviousness Rejection of Claims 2 and 14

In the outstanding Office action, the Examiner rejected claims 2 and 14 under 35 U.S.C. § 103(a) as being unpatentable over the Kemeny et al. reference. It is respectfully submitted that the Examiner has failed to establish a *prima facie* case for obviousness for at least the reasons set forth below.

As noted by the Examiner, the relative intensities of the sample and the reference beams are assumed to be equal in the Kemeny et al. reference. The Examiner then asserts that it would

have been obvious to include steps to determine the relative intensities of the input beams more precisely. First, it is noted that the absorbance calculation recited in the independent claims is not disclosed or suggested in the Kemney et al. reference. Second, there is no motivation, absent the teaching of the present invention, to provide a more precise determination of the intensity relationships. Third, even assuming *arguendo*, that more precise determination of an input intensity is obvious, it is respectfully submitted that, absent the teachings of the present invention, such determination would involve measuring an intensity of the sample beam before it is incident on the sample, rather than using an intensity equation for a particular wavelength, as recited in claims 2 and 14.

Therefore, it is respectfully submitted that the Kemney et al. reference fails to suggest the present invention as recited in claims 2 and 14. Therefore, it is respectfully requested that this rejection be withdrawn.

E. Asserted Obviousness Rejection of Claim 13

In the outstanding Office action, the Examiner rejected claim 13 under 35 U.S.C. § 103(a) as being unpatentable over the Kemeny et al. reference as applied to claim 11 above and in further view of the Messerschmidt reference. Claim 13 depends, indirectly, from claim 5, and the Messerschmidt reference fails to remedy the deficiencies noted above as missing from the Kemeny et al. reference. Therefore, it is respectfully submitted that claim 13 is allowable for at least the reasons its base claim is allowable, and it is respectfully requested that this rejection be withdrawn.

F. New Claims 15-19

Claim 15 depends from claim 5, and includes limitations deleted from original claim 5. Claims 16-17 depend, directly or indirectly, from claim 5 and claims 18-19, directly or

indirectly, from claim 1. Support for claims 16-19 may be clearly found in paragraph [0039] of the original specification. These claims are believed to be allowable for at least the reasons their respective base claims are allowable.

G. Conclusion

If the Examiner believes that additional discussions or information might advance the prosecution of the instant application, the Examiner is invited to contact the undersigned at the telephone number listed below to expedite resolution of any outstanding issues.

In view of the foregoing amendments and remarks, reconsideration of this application is earnestly solicited, and an early and favorable further action upon all the claims is hereby requested.

Respectfully submitted,

LEE & MORSE, P.C.

Date: April 10, 2006

LEE & MORSE, P.C.
1101 WILSON BOULEVARD, SUITE 2000
ARLINGTON, VA 22209
703.525.0978 TEL
703.525.4265 FAX


Eugene M. Lee, Reg. No. 32,039

PETITION and
DEPOSIT ACCOUNT CHARGE AUTHORIZATION

This document and any concurrently filed papers are believed to be timely. Should any extension of the term be required, applicant hereby petitions the Director for such extension and requests that any applicable petition fee be charged to Deposit Account No. 50-1645.

If fee payment is enclosed, this amount is believed to be correct. However, the Director is hereby authorized to charge any deficiency or credit any overpayment to Deposit Account No. 50-1645.

Any additional fee(s) necessary to effect the proper and timely filing of the accompanying-papers may also be charged to Deposit Account No. 50-1645.